Appl. No.: To be assigned Divisional of Appl. No. 09/835,302

Applicants: Edwards, et al.

What is claimed is:

1. A method for dispensing powder by inhalation, comprising: providing a powder inhalation device, the device comprising

a first casing portion,

a cylindrical chamber, defined by a straight wall of circular cross-section, coupled to said first casing portion, said chamber having a proximal end and a distal end and configured to receive a receptacle therein, said chamber comprising a ring circumferentially coupled to an inner surface of said chamber, and

a second casing portion removably coupled to said first casing portion, said second casing portion comprising an inhalation portion disposed at the proximal end of said chamber when said first and said second casing portions are coupled, said inhalation portion comprising a hemispheric region defining a plurality of apertures configured to emit powder therethrough;

puncturing the receptacle to disperse powder in said chamber; and inhaling the powder through said inhalation portion.

- 2. The method of claim 1, wherein said inhaling step is carried out by inhaling the powder through a mouthpiece into a user's mouth.
- 3. The method of claim 1, wherein said inhaling step is carried out by inhaling the powder through a nose piece into a user's nose.
- 4. The method of claim 1, wherein said puncturing step comprises:

 moving said first and said second casing portions toward each other so that a staple disposed in the device punctures at least two holes in the receptacle.
- 5. The method of claim 1, wherein said puncturing step comprises:

 compressing a spring disposed in the device so that a staple disposed in the device punctures at least two holes in the receptacle.
- 6. The method of claim 1, wherein said puncturing step comprises: moving a staple disposed in the device so that said staple punctures at least two holes in the receptacle.

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7. The method of claim 1, further comprising: inserting the receptacle into the device.

- 8. The method of claim 1, wherein a ratio of an inner diameter of said ring to an inner diameter of said chamber is about 0.9 or less.
- 9. The method of claim 8, wherein the ratio is about 0.8.
- 10. The method of claim 1, wherein the puncturing step is carried out using:
- a substantially U-shaped staple comprising a rounded portion and two prongs that define a non-planar inner edge and a non-planar outer edge of said staple, wherein said staple is formed from a rectangular length having two end surfaces and four planar side surfaces that intersect to form four non-planar edges, wherein said inner edge of said staple is one of said non-planar edges and said outer edge is another of said non-planar edges that is opposite said one non-planar edge, wherein each end surface is an angled diamond-shaped surface.
- 11. The method of claim 10, wherein each end surface has a top point at an apex of said inner edge and a bottom point at an apex of said outer edge, each top point forming a cutting point for one of said prongs.
- 12. The method of claim 1, wherein said ring is disposed at approximately a midpoint of said chamber.
- 13. The method of claim 1, wherein said ring is disposed adjacent the proximal end of said chamber.
- 14. A method for dispensing powder by inhalation, comprising: providing a powder inhalation device that comprises,
- a casing comprising at least one aperture configured to emit an emitted dose of the powder therethrough, and
- a cylindrical chamber, defined by a straight wall of circular cross-section, disposed in said casing, said chamber comprising a ring circumferentially coupled to an inner surface of said chamber; and

inhaling the emitted dose through said at least one aperture at a flow rate less than about 15 L/min.

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15. The method of claim 14, further comprising prior to said inhaling:

puncturing a receptacle containing the powder to disperse the powder in said

chamber.

16. The method of claim 14, wherein the puncturing step is carried out using:

a substantially U-shaped staple comprising a rounded portion and two prongs that

define a non-planar inner edge and a non-planar outer edge of said staple, wherein said staple

is formed from a rectangular length having two end surfaces and four planar side surfaces

that intersect to form four non-planar edges, wherein said inner edge of said staple is one of

said non-planar edges and said outer edge is another of said non-planar edges that is opposite

said one non-planar edge, wherein each end surface is an angled diamond-shaped surface.

17. The method of claim 16, wherein

each end surface has a top point at an apex of said inner edge and a bottom point at an

apex of said outer edge, each top point forming a cutting point for one of said prongs.

18. The method of claim 14, wherein said ring is disposed at approximately a midpoint of

said chamber.

19. The method of claim 14, wherein said ring is disposed adjacent a proximal end of said

chamber.

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